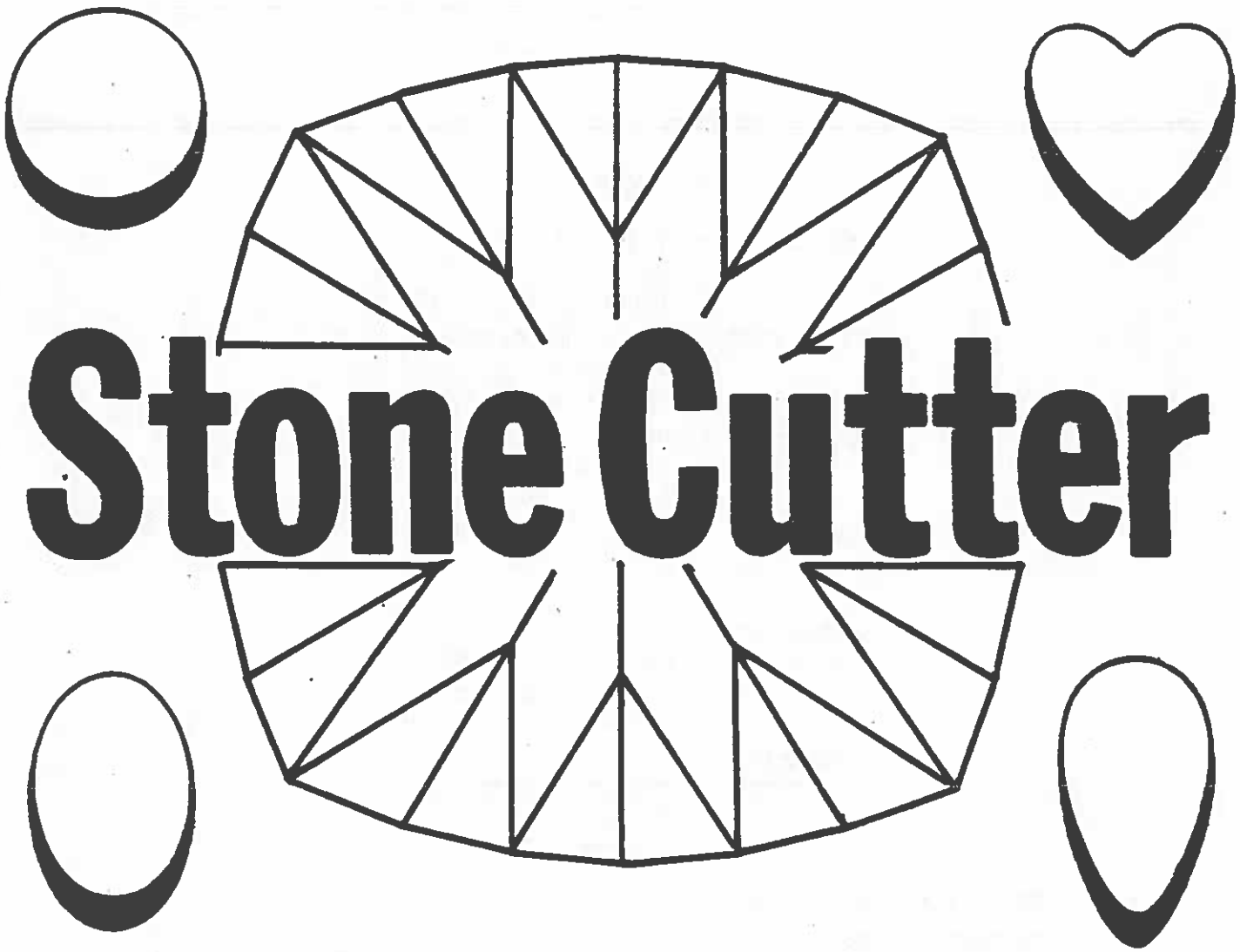
NORTH CAROLINA LAPIDARY SOCIETY

April
1982



Stone Cutter

MEETINGS:
Third Thursday each month.
GEMCRAFTERS
2106 Patterson St.
Greensboro, NC 27407

SOUTHEAST FEDERATION MINERALOGICAL SOCIETIES, INC.

MEETING DATE : April 15, 1982

TIME : 7:30 PM

PLACE : GEMCRAFTERS
2106 Patterson St.
Greensboro, NC

PROGRAM : ROY GREENE will demonstrate and explain the process of identifying gemstones by their characteristic inclusions using the microscope.

OFFICERS 1982

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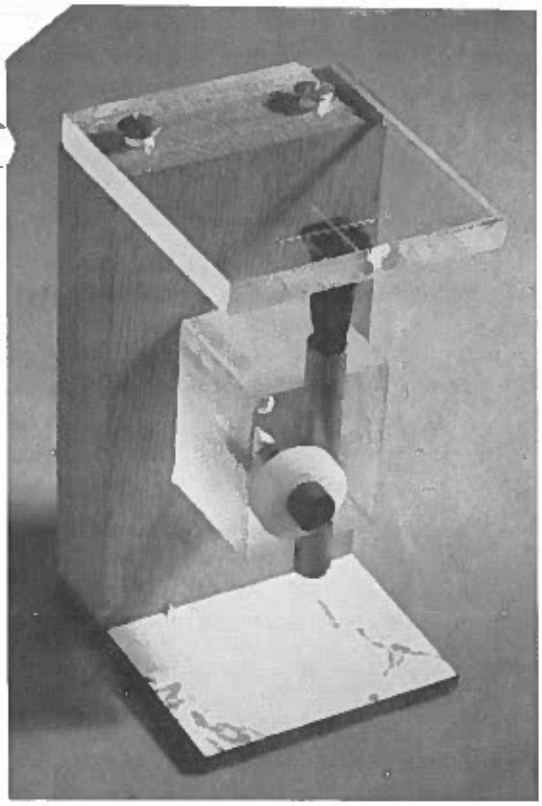
BULLETIN
EDITOR : THOMAS J. RICKS
Rt. 3 Box 347
Liberty, NC 27298

EXECUTIVE BOARD meets at the call of the president.

MEMBERSHIP DUES : $12.00 per year - prorated quarterly.

STONE CUTTER subscriptions: $5.00 per year.

STONE CUTTER advertising rates: full page, $40.00; half page, $20.00; quarter page, $ 10.00.



EVERETT'S

STONE CENTERING DEVICE

FOR FACETERS

A device for accurately centering a pre-cut stone (or preform) so it can be re-cut with a minimum of material waste.

Each Centering Device is individually custom made so the centering scale is perfectly located over the exact center of either a 1/4" or 5/16" dop.

It Will Accommodate Dops Up To 4" Long

ITS PURPOSE

Everett's Stone Centering Device will allow you to re-cut an emerald or other valuable faceted stone with minimal waste and maximum recovery in the finished product.

HOW TO USE IT

Briefly, a stone is dopped and the dop inserted in the holding groove and locked in place be the white retaining ring. The stone is then adjusted in four directions so the scale and stone edges are balanced left and right, and top and bottom. A slight upward pressure of the dop will hold it in position until the dopping medium cools or sets, after which the dop may be removed for the faceting operation.

DOPPING PROCEDURES

The stone in the picture was dopped with hot dop wax, and inserted into the Centering Device. To use this method you have to have nimble fingers and say "Ouch" quite often, but it is not too difficult to get the dop and hot wax onto the stone. After this is done, quickly adjust the stone into position on the dop. Then, while the wax is still soft and pliable, place the dop in the Centering Device and center the stone within the etched scale. Be sure to press the stone up tight against the scale so the table will be in correct alignment.

It is best to dop the stone on a square-ended dop so it can be moved around freely in the centering procedure.

EPOXY METHOD OF DOPPING

We use No. 330 Epoxy in our dopping, but to do so you will want to thicken the Epoxy first so it won't run down the dop.

Epoxy can be thickened in either of two ways.

1. Mix the two parts together. Completely! A good way to do this is to put equal-sized drops on a piece of aluminum foil or other small metal strip, mix together with a round toothpick, and then hold the Epoxy within ½" of a 60 watt (or larger) light bulb for a few seconds. This will make it become real thin and watery. Stir it again. Heat it a second time, and re-stir it.

Now, add about an equal portion of cornstarch, mixing it thoroughly into the Epoxy until it becomes a soft, pasty mass. Not too stiff, still soft enough to make a ready bond to the dop and stone.

2. The second method for thickening Epoxy is to use the heating procedure outlined in (1.), repeating the "heat and stir" process four or five times, and then applying it to the dop and stone.

Be sure, in either application, that the stone and dop are well cleaned with either acetone or another solvent that will remove all greasy finger prints from them.

BE CAREFUL USING ACETONE.Keep the can tightly closed and away from heat, flames, hot lights, etc.

REMOVING EPOXY DOPS

After cutting the crown of your stone, transfer it, again using thickened Epoxy. After the Epoxy transfer has hardened, fold a small cloth into a pad. Wet the pad in cold water and hold the second dop, and the stone, with the wet cloth pad.

Grasp the first dop with a pair of pliers and heat the first dop in the flame of an alcohol lamp or torch, while pulling slightly with the pliers.

As soon as the first dop gets warm enough for the Epoxy to soften, it will pull loose from the stone, leaving it attached to the new (second) dop.

After you have cut the second side of the stone you can remove the second dop the same way as the first by holding the stone in a cloth pad, heating the dop, with a little pull from the pliers and it will pull loose from the stone.

The Second Epoxy can be dissolved off the stone by soaking in "Attack" solvent.

—:—

If necessary, while the Epoxy is setting up, you can stand the Centering Device on its head to keep the Epoxy where it belongs. Thickening the Epoxy by one of the methods outlined above will make it more manageable than just mixing and using it in the normal way. It will still hold but will not be so runny.

—:—

When ordering specify for 1/4" or 5/16" dop.

SEND FOR OUR LIST OF FACETING ROUGH

Shipped Postpaid for $10.00

ORDER FROM

EVERETT'S GEMS – RT. 4, BOX 288 – BLUFF CITY, TN 37618

WHY DO WE DISPLAY ?

by

Barbara Goss
President, AFMS

1. It's satisfying to see our collection attractively set up in a display. We can rightly be proud of what we show.
2. There is much joy and reward in sharing our collection with others who have similar interests.
3. It's exciting to be a part of a group project.
4. After working diligently at our hobby, we deserve a little praise and we can get this only by sharing.
5. Displaying in a show sets up opportunities to meet other people who have found pleasure in the same interests as you. Many life-long friendships can be started in this way.
6. Sometimes we get a little stale at what we do. Preparing for a show brings new inspiration and REJUVENATES YOUR INTERESTS.

So, fellow members - we all need a little rejuvenating of our interests. After you read this bulletin, please take the first step to finish preparing your display case, no matter what size, or shape, and let's all have a good time.

from AFMS Newsletter
via Goldrush Ledger

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WILDACRES WORKSHOP DATES ANNOUNCED

SFMS will hold three workshops at Wildacres this year. The dates are: August 1 thru 7; September 28 thru October 3; and October 3 thru 8. No other information is available. Hopefully, other details and application forms will be available by our April meeting date (15th).

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1982 SFMS SHOW AND CONVENTION

Harold Sparks, SFMS 1st V.P. and 1982 Show Chairman, has announced that the Show and Convention will be held this year in St. Petersburg, FL on November 11, 12 and 13. Show site is the Skyway Inn, 3600 34th St. S. The event is being sponsored by the Pinellas Geological Society of Clearwater, FL.

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CARROT - CARAT - KARAT

A carrot is a vegetable.

A carat is a measure of weight for gemstones. One carat equals 1/5 of a gram. One gram equals 15 grains and it takes 28 grams to equal one ounce.

A karat is the degree of fineness of gold.

from the Stonelicker.

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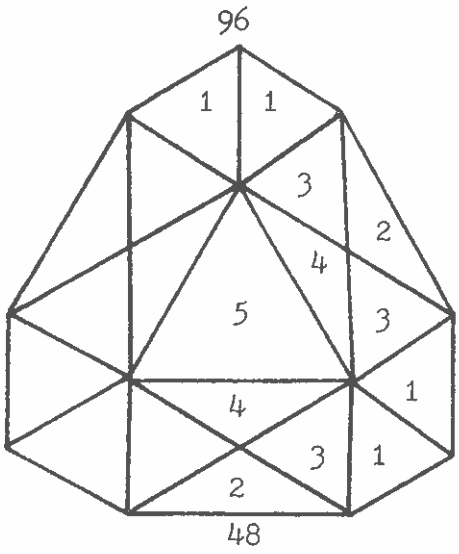
San Diego Shield

by Tom Ricks

Inspiration for the girdle outline of this design came from the logo of the San Diego Mineral and Gem Society as shown on the cover of the "Pegmatite", the Society's Newsletter.

This is a "Meet Point" design. Facet the pavilion first. No preform is needed. A 96 index is used. Angles are for quartz.

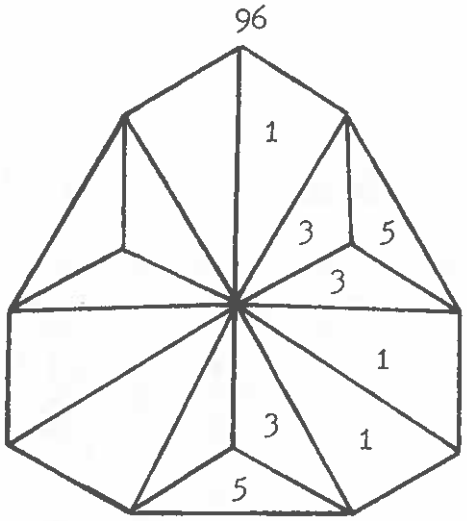
Cut in Cubic Zirconia, this design produces a high degree of brilliance evenly distributed over the entire crown area.



CROWN

STEP	ANGLE	INDEX
1.	38°	08-88-24-40 56-72
2.	46.5°	16-48-80
3.	35.5	12-20-44-52 76-84
4.	17°	16-48-80
5.	0°	ANY - TABLE

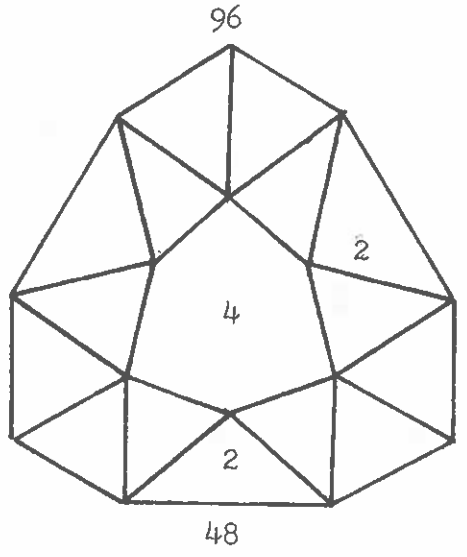
SAN DIEGO SHIELD con't.



STEP	ANGLE	INDEX
1.	43°	08-88-24-40 56-72
2.	90°	08-88-24-40 56-72
3.	44.5°	12-20-44-52 76-84
4.	90°	16-48-80
5.	55°	16-48-80

SAN DIEGO SHIELD - ALTERNATE CROWN

An alternate crown design which provides a shield-shaped table can be obtained by eliminating the STEP 4 (star) facets and cutting the STEP 2 facets at 43.5 degrees.



STEP	ANGLE	INDEX
3.	43.5°	16-48-80

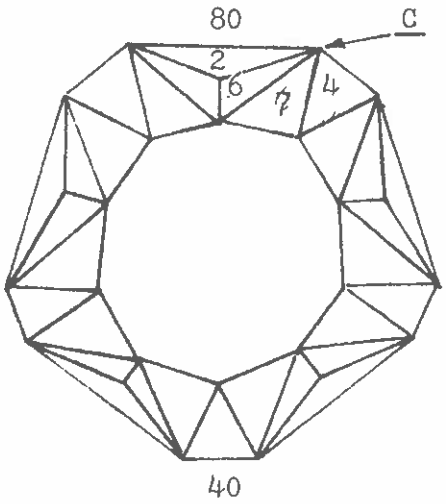
The TABLE then becomes STEP 4.

4.	0°	ANY-TABLE

ANOTHER CUTTING SEQUENCE FOR THE "CZARINA STAR" -

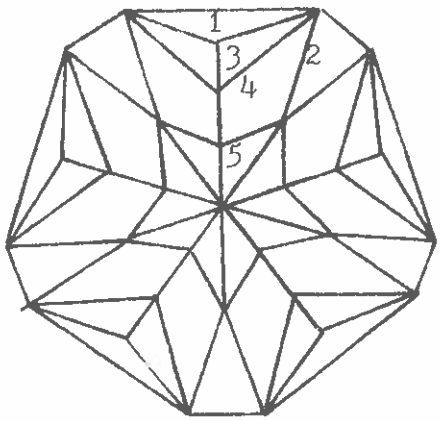
by Richard Slater
Goulds, FL

Dick writes that this crown-first method is neither Meet Point nor ECED. He calls it the "Locator Facet Method" (LFM). He says that this method will allow you to get the largest size stone possible from the rough. The finished stone looks like the diagram except that the table is about 60%. Angles are for aquamarine using an 80 index gear.



CROWN

STEP	ANGLE	INDEX	
1.	90°	16-32-48-64-80	
	In cutting for the largest possible size, leave sufficient material in the corners of the pentagon to clean up when the corners are cut to level the girdle. For a calibrated size, cut the stone to a complete pentagon of thedesired size plus a factor of .077. Example; 8.0mm x .077 equals .616 - added to 8.0mm = 8.6 mm measured across the 80/40 axis.		
2.	46.5°	16-32-48-64-80	Establish girdle.
3.	39.5°	02	Cut this facet to reach girdle then cut STEP 4 facets
4.	39.5°	08-24-40 56-72	without changing mast height setting. This establishes Meet Point C.
5.	90°	08-24-40-56-72	Cut to level girdle.
6.	39°	01-15-17-31-33 47-49-63-65-79	Cut to Meet Point C.
7.	37°	02-14-18-30-34 46-50-62-66-78	Cut to Meet Point C.
8.	0°	ANY - TABLE	



PAVILION

STEP	ANGLE	INDEX
1.	55°	16-32-48-64-80
2.	48°	08-24-40-56-72
3.	49°	01-15-17-31-33 47-49-63-65-79
4.	47°	02-14-18-30-34 46-50-62-66-78
5.	41°	04-12-20-28-36 44-52-60-66-78

A Brilliant Experiment

This article is reprinted here with permission of the Columbia-Willamette Faceters' Guild of Portland, OR. It was published in the June, 1976 issue of FACETS, the bulletin of the C.W.F.G. It shows how a little knowlege of gemology and crystalography can help faceters turn out more beautiful gemstones. Ed.

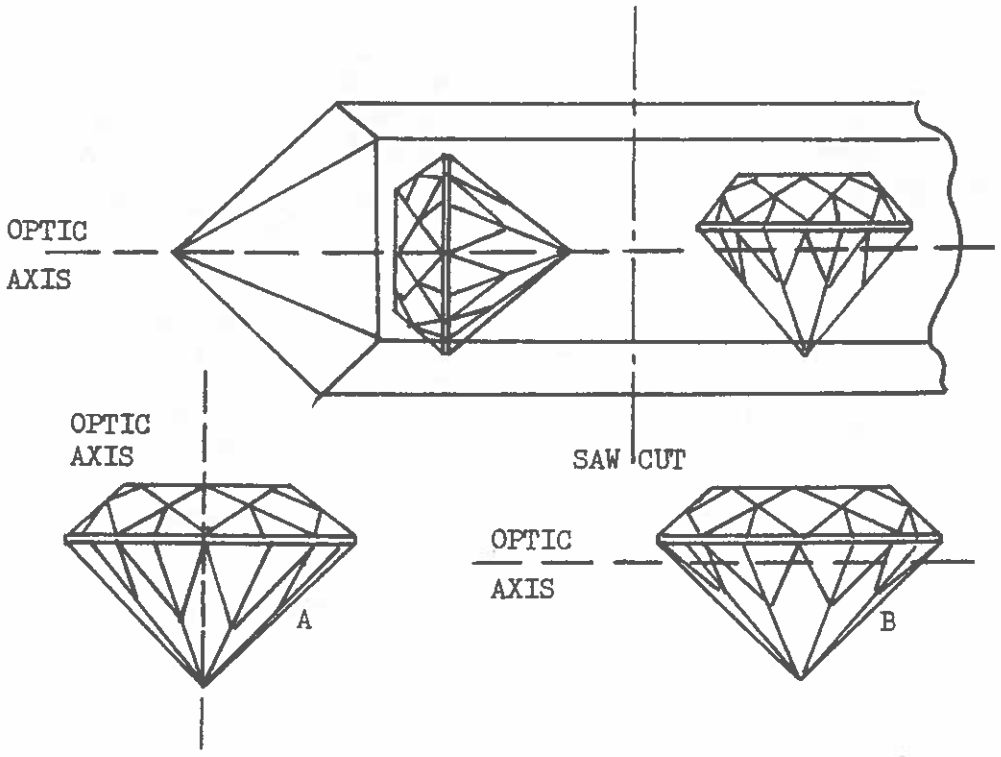
An experiment recommended some years back in the Lapidary Journal illustrates an important consideration in orienting rough faceting material, in order to obtain the brightest finished stones possible.

The intent of the experiment was to point out the differences in brilliance which may occur as a result of orienting two separate stones differently with respect to the optic axis within the same crystal. Aside from your faceting equipment, all you need is a single crystal large enough to cut two stones and some means of sawing it in two.

Because of some degree of dichroism which exists in most colored rough, it is recommended that the material used for this experiment be colorless. Quartz is an excellent choice, and so is goshenite (the colorless form of beryl)-- but the crystal habit of the material, whatever you might use, must be apparent.

Be sure to use one single crystal and cut <u>two stones</u> from it. Otherwise, after they're cut, there might be the suspicion that a difference in the material of the two stones existed.

First, compare your crystal with the drawing shown and visualize the two stones in it, so you can place the saw cut properly with respect to the optic axis. This optic axis is an imaginary line running the long way through the center of the crystal. Be sure to have one stone oriented with its table at right angles to the optic axis, while keeping the other stone's table parallel to it.



N. C. LAPIDARY SOCIETY
"STONE CUTTER"
Thomas J. Ricks
Route 3, Box 347
LIBERTY, N. C. 27298

ADAM J. GRZYB
6852 Jonquil Terr.
Niles, IL 60648

A BRILLIANT EXPERIMENT con't.

The stone with the right-angle orientation can have its table face either directly toward the terminated end or directly opposite. Either way will do, as long as the completed stone will have the viewer looking along the axis as he looks down at the top of the stone.(A).

The parallel-oriented stone actually may be cut at many different angles. The important thing is NOT to use the flat sawed surface as a table, nor the other end of the crystal. The easiest way is to use one of the six crystal sides as a table. Thus you will end up with a finished stone having the optic axis running through it from side to side as you look down on the table, as in "B".

When faceting, almost any cut will do. The standard round brilliant is fine. But it is very important that you use exactly the same cut for both stones, and exactly the same angles. There is a strong temptation at this point to try two different cuts. This would ruin the experiment. The difference in the twin stones is so drastic, it would forever be blamed on the difference in cuts. So make the two stones as exactly alike as you possibly can.

Now, inspect the two stones together under a strong light, preferably on a black background, with both sparkling clean. Is one dull, lifeless, and actually glasslike? Is the other sparkling, vibrant with life, and truly a gem? Do you know which is which? Do you know why?

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A clue to the answers to the questions posed above lies in the principle of polarization of light as it passes through a doubly refractive gem material in a direction other than along an optic axis. It is to be noted that the optic axis does not run the long way through the crystal in all gem materials - some gem materials have two optic axes, and some, such as spinel, fluorite, diamond, CZ, GGG and YAG are not doubly refractive and therefore have no optic axis. A discussion of optic axes in gem materials can be found in any competent text on gemology.

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